DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A20SO
Revision 9

Piper
PA-31
PA-31-300
PA-31-325
PA-31-350
(See NOTE 7)

March 19, 2001

TYPE CERTIFICATE DATA SHEET NO. A20SO

This data sheet, which is a part of Type Certificate A20SO, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: The New Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida 32960

I. - Model PA-31 (Navajo), 6 - 8 PCLM (Normal Category), Approved February 24, 1966 (Reissued July 25, 1966, See NOTE 3).

Engine

2 Lycoming TIO-540-A1A, TIO-540-A1B, TIO-540-A2A, or TIO-540-A2B (Applicable to S/N 31-2 through S/N 31-659 and S/N 31-661 through 31-751); or
2 Lycoming TIO-540-A2B (Applicable to S/N 31-660 with nacelle wing lockers only); or
2 Lycoming TIO-540-A2C (Applicable to S/N 31-712 through S/N 31-751 with nacelle wing lockers only and S/N 31-752 through S/N 31-8312019)
See NOTE 4.

Fuel

100/130 minimum grade aviation gasoline

Engine Limits

Applicable to S/N 31-2 through 31-751 (TIO-540-AIA, TIO-540-AIB, TIO-540-A2A, or TIO-540-A2B):
2,575 r.p.m., 310 hp. from sea level to 15,000 ft. altitude. Full throttle operations at all altitudes. Maximum 43 in. hg. manifold pressure cumulative total with automatic density control and altitude adjustment.

Applicable to S/N 31-712 through 31-900, and 31-7300901 through 31-7912124 (TIO-540-A2C):
2,575 r.p.m., 310 hp. from sea level to 15,800 ft. altitude. Maximum 46.0 in. hg. manifold pressure cumulative total with automatic density control and altitude adjustment. Do not exceed the following manifold pressure limitations: 46.0 in. hg. manifold pressure at and below 15,800 ft. altitude, 31.0 in. hg. manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Applicable to S/N 31-8012001 through 31-8312019 (TIO-540-A2C):
Maximum continuous power
2,575 r.p.m. at 310 hp. from sea level to 15,800 ft. altitude. Maximum 46.0 in. hg. manifold pressure cumulative total with automatic density control and altitude adjustment. Do not exceed the following manifold pressure limitations: 46.0 in. hg. manifold pressure at and below 15,800 ft. altitude, 31.0 in. hg. manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Engine Limits (continued)

Maximum normal operating power

Do not exceed the following r.p.m. and manifold pressures: 2,400 r.p.m., 39.5 in. hg. manifold pressure at and below 19,700 ft. altitude, 2,400 r.p.m., 31.0 in. hg. manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Propeller and Propeller Limits

Hartzell Hub and Blade Models:

Eligible on TI0-540-A1A, TI0-540-A1B engines only:
HC-E2YK-2B/C8475-4 (2 Bld)
HC-E2YK-2BT/C8475-4 (2 Bld)

Eligible on TIO-540-AIA, TIO-540-AIB, TIO-540-A2A, TI0-540-A2B engines only:
HC-E2YR-2B/C8475-4 (2 Bld)
HC-E2YR-2BT/C8475-4 (2 Bld)
HC-E2YR-2BTF/FC8475-4 (2Bld)

Eligible on TIO-540-A2A, TI0-540-A2B, TI0-540-A2C egines only:
HC-E3YR-2/C8468-6R (3 Bld)
HC-E3YR-2T/C8468-6R (3 Bld)
HC-E3YR-2A/C8468-6R (3 Bld)
HC-E3YR-2AT/C8468-6R (3 Bld)

Eligible on TI0-540-A2A, TI0-540-A2B, TI0-540-A2C engines only:
HC-E3YR/2AF/FC8468-6R (3 Bld)
HC-E3YR-2ATF/FC8468-6R (3 Bld)

Pitch (2 Bld):	High 81° ± 1.0° (feathered), Low 14.5° ± 0.1° at 30 in. station.
Pitch (3 Bld):	High 82° ± 1.0° (feathered), Low 13° ± 0.1° (TIO-540-A2A and TIO-540-A2B engines) or Low 13.2° ± 0.1° (TIO-540-A2C engines) at 30 in. station.
Diameter:	Not over 80 in., not under 78 in. No further reduction permitted.

Propeller Governor

2 Hartzell F-6-24Z Propeller Governors or
2 Hartzell F-6-11S or F-6-11A Propeller Governors per Piper Drawing 24622-7

Airspeed Limits (CAS)

Applicable to all S/N:

V_{NE}	(Never Exceed)	272 mph	(236 knots)
V_{NO}	(Max. Structural Cruise)	216 mph	(188 knots)
V_{FE}	(Flaps Extended) 40°	150 mph	(130 knots)
V_{MC}	(Minimum Control)	85 mph	(74 knots)

Applicable to S/N 31-2 through 31-711:

V_A	(Maneuvering)	188 mph	(163 knots)

Applicable to S/N 31-712 through 31-900 and 31-7300901 through 31-8312019:

V_A	(Maneuvering)	183 mph	(159 knots)

Applicable to S/N 31-2 through 31-900 and 31-7300901 through 31-7712106:

V_{FE}	(Flaps Extended) 15°	175 mph	(152 knots)
V_{LO}	(Landing Gear Operating) Extension and Retraction	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	150 mph	(130 knots)

Airspeed Limits (CAS)

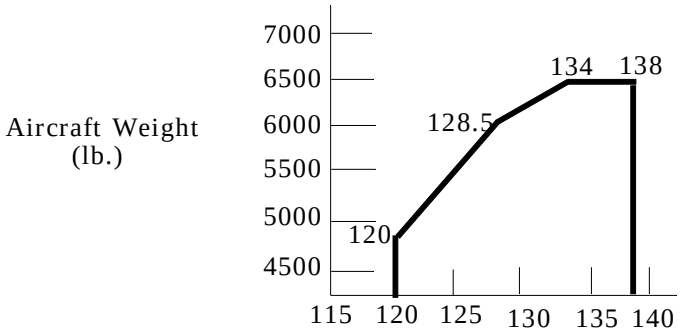
Applicable to S/N 31-7812001 through 31-8312019:

V_{FE}	(Flaps Extended) 25°	184 mph	(160 knots)
V_{LO}	(Landing Gear Operating)		
	Extension	180 mph	(156 knots)
	Retraction	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	180 mph	(156 knots)

C.G. Range (Gear Extended)

(+134.0)	to	(+138.0)	at	6,500 lb.
(+128.5)	to	(+138.0)	at	6,000 lb.
(+120.0)	to	(+138.0)	at	4,800 lb. or less.

Straight line variation between points given.
Moment due to retracting landing gear: + 860 in.-lb.



Empty Weight C.G. Range

None

Maximum Weight

6,500 lb. - Takeoff; 6,200 lb. - Landing (S/N 31-2 through 31-711)
6,500 lb. - Takeoff or Landing (S/N 31-712 through 31-900 and 31-7300901 through 31-8312019)

No. of Seats

6 - 8 seats (2 at +119.0, 2 at +166.0, 2 at +198.0)
(2 optional, 1 at +229.0, 1 at +234.0)

Maximum Baggage

Without Nacelle Lockers:
Total: 350 lb.
Fuselage: 150 lb. at +43; 200 lb. at +255

With Nacelle Lockers:
Total: 650 lb.
Fuselage: 150 lb. at +43; 200 lb. at +255
Nacelle Lockers: 150 lb. each side at +168

Fuel Capacity

Total - 192 gallons
56 gallons in each of 2 wing tanks at +126.8
40 gallons in each of 2 wing tanks at +148.0
See NOTE 1 for unusable fuel data.

Oil Capacity

Total - 6 gallons at (+77)
(3 gallons each engine - 2 ¾ qt. unusable each engine)

Control Surface Movements	Aileron	(±1.0°)	Up	24°	Down	14°
	Aileron Tab	(±1.0°)	Up	15°	Down	20°
(All measurements taken at trailing edge from neutral position)	(Aileron neutral)					
	Elevator	(±1.0°)	Up	25°	Down	20°
	Elevator Tab	(±1.0°)	Up	16°	Down	29°
	(Elevator neutral)					
	Rudder	(±1.0°)	Right	30°	Left	30°
	Rudder Tab	(±1.0°)	Right	18°	Left	40°
	(Rudder neutral)					
	Flaps	(±1.0°)			Down	40°

Maximum Operating Altitude — 24,000 ft. pressure altitude

Serial Numbers Eligible — 31-2 through 31-900 and 31-7300901 through 31-8312019 (See NOTES 5 and 6 for airworthiness certification eligibility in the United States).

II. - Model PA-31-300 (Navajo), 6 - 8 PCLM (Normal Category), Approved June 12, 1967.

Engine — 2 Lycoming IO-540-M1A5

Fuel — 100/130 minimum grade aviation gasoline

Engine Limits — For all operations, 2700 r.p.m. (300 hp)
"Do not exceed 23 in. manifold pressure below 2,250 r.p.m."

Propeller and Propeller Limits — Hartzell Hub and Blade Models:
HC-E2YR-2B/C8475A-4
HC-E2YR-2BT/C8475A-4
HC-E2YR-2BTF/FC8475A-4

Pitch: High 81° ± 1.0° (feathered), Low 12.5° ± 0.1° at 30 in. station.
Diameter: Not over 80 in., not under 78 in.
No further reduction permitted.

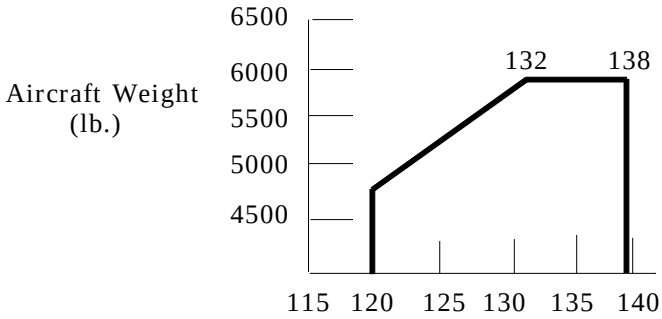
Propeller Governor — 2 Hartzell F-6-15A Propeller Governors

Airspeed Limits (CAS)

V_{NE}	(Never Exceed)	272 mph	(236 knots)
V_{NO}	(Max. Structural Cruise)	216 mph	(188 knots)
V_A	(Maneuvering)	188 mph	(163 knots)
V_{FE}	(Flaps Extended) 40°	150 mph	(130 knots)
V_{LO}	(Landing Gear Operating)	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	150 mph	(130 knots)
V_{MC}	(Minimum Control)	85 mph	(74 knots)

C.G. Range (Gear Extended)

(+132.0) to (+138.0) at 6,000 lb.
(+120.0) to (+138.0) at 4,800 lb. or less.
Straight line variation between points given.
Moment due to retracting landing gear: + 860 in.-lb.



Empty Weight C.G. Range

None

Maximum Weight

6,000 lb.

No. of Seats

6 - 8 seats (2 at +119.0, 2 at +166.0, 2 at +198.0)
(2 optional, 1 at +229.0, 1 at +234.0)

Maximum Baggage

Total: 400 lb. (200 lb. at +43, 200 lb. at +255)

Fuel Capacity

Total: 192 gallons
56 gallons in each of 2 wing tanks at +126.8
40 gallons in each of 2 wing tanks at +148.0
See NOTE 1 for unusable fuel data.

Oil Capacity

Total - 6 gallons at (+77)
(3 gallons each engine - 2 ¾ qt. unusable each engine)

Control Surface Movements

(All measurements taken at trailing edge from neutral position)

Aileron	(±1.0°)	Up	24°	Down	14°
Aileron Tab	(±1.0°)	Up	15°	Down	20°
(Aileron neutral)					
Elevator	(±1.0°)	Up	25°	Down	20°
Elevator Tab	(±1.0°)	Up	16°	Down	29°
(Elevator neutral)					
Rudder	(±1.0°)	Right	30°	Left	30°
Rudder Tab	(±1.0°)	Right	18°	Left	40°
(Rudder neutral)					
Flaps	(±1.0°)			Down	40°

Maximum Operating Altitude

24,000 ft. pressure altitude

Serial Numbers Eligible

31-2 through 31-900 and 31-7300901 through 31-8312019 (See NOTES 5 and 6 for airworthiness certification eligibility in the United States).

III. - Model PA-31-350 (Chieftain), and (T-1020), 6 - 11 PCLM (Normal Category), Approved May 3, 1972.

Engine

1 Lycoming TIO-540-J2BD (Chieftain, S/N 31-5001 through 31-5004 and 31-7305005 through 31-8452024)
1 Lycoming LTIO-540-J2BD (Chieftain, S/N 31-5001 through 31-5004 and 31-7305005 through 31-8452024)
1 Lycoming TIO 540-J2B (T1020, S/N 31-8253001 through 31-8553002)
1 Lycoming LTIO-540-J2B (T1020, S/N 31-8253001 through 31-8553002)

Fuel

100/130 minimum grade aviation gasoline

Engine Limits

Applicable to S/N 31-5001 through 31-5004 and 31-7305005 through 31-7952250:
2,575 r.p.m., 350 hp. from sea level to 15,000 ft. altitude. Full throttle operations at all altitudes. Maximum 49 inches hg. manifold pressure cumulative total with automatic density control and altitude adjustment. Do not exceed the following manifold pressure limitations: 49.0 inches hg. manifold pressure at and below 15,000 ft. altitude, 44.3 inches hg. manifold pressure at 22,300 ft., 40.5 inches hg. manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Applicable to S/N 31-8052001 through 31-8553002:
Maximum continuous power
2,575 r.p.m., 350 hp. from sea level to 15,000 ft. altitude. Full throttle operations at all altitudes. Maximum 49 inches hg. manifold pressure cumulative total with automatic density control and altitude adjustment. Do not exceed the following manifold pressure limitations: 49.0 inches hg. manifold pressure at and below 15,000 ft. altitude, 44.3 inches hg. manifold pressure at 22,300 ft., 40.5 inches hg. manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Maximum normal operating power
Do not exceed the following r.p.m. and manifold pressures: 2,400 r.p.m., 40.0 inches hg. manifold pressure at and below 18,700 ft. altitude, 2,400 r.p.m., 31.0 inches hg. manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Propeller and Propeller Limits

Hartzell Hub and Blade Models:

Eligible on TIO-540-J2BD engine:
HC-E3YR-2A/C8468-6R
HC-E3YR-2AT/C8468-6R
HC-E3YR-2AF/FC8468-6R
HC-E3YR-2ATF/FC8468-6R

Eligible on LTIO-540-J2BD engine:
HC-E3YR-2ALT/JC8468-6R
HC-E3YR-2AL/JC8468-6R
HC-E3YR-2ALF/FJC8468-6R
HC-E3YR-2ALTF/FJC8468-6R

Eligible on TIO-540-J2B engine:
HC-E3YR-2ATF/FC8468-6R

Eligible on LTIO-540-J2B engine:
HC-E3YR-2ALTF/FJC8468-6R

Pitch: High 82° ± 1.0° (feathered), Low 13.4° ± 0.1° at 30 in station.
Diameter: Not over 80 in., not under 78 in.
No further reduction permitted.

Propeller Governor

1 Hartzell F-6-24LZ and 1 Hartzell F-6-24Z Propeller Governors

Airspeed Limits (CAS)

Applicable to all S/N:

V_{NE}	(Never Exceed)	272 mph	(236 knots)
V_{NO}	(Max. Structural Cruise)	216 mph	(187 knots)
V_A	(Maneuvering)	186 mph	(162 knots)
V_{FE}	(Flaps Extended) 40°	150 mph	(130 knots)
V_{MC}	(Minimum Control)	90 mph	(78 knots)

Applicable to S/N 31-5001 through 31-5004 and 31-7305005 through 31-7752201:

V_{FE}	(Flaps Extended) 15°	175 mph	(152 knots)
V_{LO}	(Landing Gear Operating)		
	Extension and Retraction	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	150 mph	(130 knots)

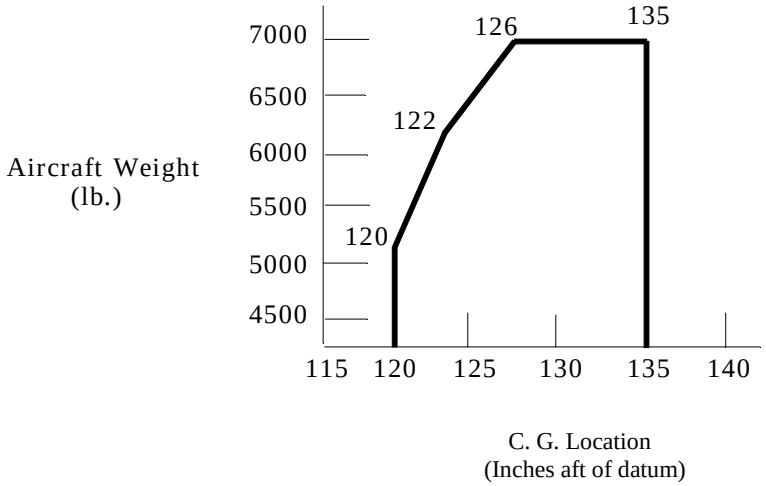
Applicable to S/N 31-7852001 through 31-8553002:

V_{FE}	(Flaps Extended) 25°	184 mph	(160 knots)
V_{LO}	(Landing Gear Operating)		
	Extension	180 mph	(156 knots)
	Retraction	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	180 mph	(156 knots)

C.G. Range (Gear Extended)

(+126.0)	to	(+135.0)	at	7,000 lb.
(+122.0)	to	(+135.0)	at	6,200 lb.
(+120.0)	to	(+135.0)	at	5,200 lb. or less

Straight line variation between points given.
Moment due to retracting landing gear: + 860 in.-lb.



Empty Weight C.G. Range

None

Maximum Weight

7,000 lb. - Takeoff; 7,000 lb. - Landing

No. of Seats

2 seats at +95.0
6 optional (2 at +132/137 (reversed), 2 at +195.0, 1 at +229.0, 1 at +242.0)
8 optional (2 at +132.0, 2 at +163.5, 2 at +195.0, 1 at +229.0, 1 at +242.0)
9 optional (T1020, S/N 31-8253001 through 31-8553002: 2 at +130.9, 2 at +164.6, 2 at +193.6, 1 at +222.6, 2 at +253.5)

Maximum Baggage

Total: 700 lb.
Fuselage: 200 lb. at +19.0
200 lb. at +255
Nacelle Lockers: 150 lb. each side at +168.0
With optional nacelle fuel tanks

Chieftain, S/N 31-5001 through 31-5004 and 31-7305005 through 31-8452024:
Total: 500 lb.
Fuselage: 200 lb. at +19.0
200 lb. at +255
Nacelle Lockers: 50 lb. each side at +192.0

T1020, S/N 31-8253001 through 31-8553002:
Total: 600 lb.
Fuselage: 200 lb. at +23.0
100 lb. at +268
Nacelle Lockers: 150 lb. each side at +168.0

Fuel Capacity

T1020, S/N 31-8253001 through 31-8553002:
Total - 112 gallons
56 gallons in each of 2 wing tanks at +126.8

Chieftain, S/N 31-5001 through 31-5004 and 31-7305005 through 31-8452024:
Total - 192 gallons
56 gallons in each of 2 wing tanks at +126.8
40 gallons in each of 2 wing tanks at +148.0
With optional nacelle fuel tanks

Chieftain, S/N 31-5001 through 31-5004 and 31-7305005 through 31-8452024:
Total - 246 gallons
56 gallons in each of 2 wing tanks at +126.8
27 gallons in each of 2 nacelle tanks at +142.8
40 gallons in each of 2 wing tanks at +148.0

See NOTE 1 for unusable fuel data.

Oil Capacity

Total - 6 gallons at (+77)
(3 gallons each engine - 2 ¾ qt. unusable each engine)

Control Surface Movements

(All measurements taken at trailing edge from neutral position)

Aileron	(±1.0°)	Up	24°	Down	14°
Aileron Tab	(±1.0°)	Up	15°	Down	20°
(Aileron neutral)					
Elevator	(±1.0°)	Up	16°	Down	20°
Elevator Tab	(±1.0°)	Up	9°	Down	36°
(Elevator neutral)					
Rudder	(±1.0°)	Right	30°	Left	30°
Rudder Tab	(±1.0°)	Right	18°	Left	40°
(Rudder neutral)					
Flaps	(±1.0°)			Down	40°

Maximum Operating Altitude

24,000 ft. pressure altitude

Serial Numbers Eligible

31-5001 through 31-5004 and 31-7305005 through 31-8553002 (See NOTES 5 and 6 for airworthiness certification eligibility in the United States).

IV. - Model PA-31-325 (Navajo C/R), 6 - 8 PCLM (Normal Category), Approved May 31, 1974.

Engine

1 Lycoming TIO-540-F2BD
1 Lycoming LTIO-540 F2BD

Fuel

100/130 minimum grade aviation gasoline

Engine Limits

Applicable to S/N 31-7400990, 31-7512001 through 31-7912124:
Maximum continuous power
2,575 r.p.m., 325 hp. from sea level to 14,000 ft. altitude, maximum 49.0 in. hg. manifold pressure cumulative total with automatic density control and altitude adjustment. Do not exceed the following manifold pressure limitations: 49.0 in. hg manifold pressure at and below 14,000 ft. altitude, 31.0 in. hg manifold pressure at 25,000 ft altitude. Straight line variation between points given.

Applicable to S/N 31-8012001 through 31-8312019:
Maximum continuous power
2,575 r.p.m., 325 hp. from sea level to 14,000 ft. altitude, maximum 49.0 in. hg. manifold pressure cumulative total with automatic density control and altitude adjustment. Do not exceed the following manifold pressure limitations: 49.0 in. hg manifold pressure at and below 14,000 ft. altitude, 31.0 in. hg manifold pressure at 24,000 ft. altitude. Straight line variation between points given.

Maximum normal operating power
Do not exceed the following r.p.m. and manifold pressures: 2,400 r.p.m., 39.5 in. hg manifold pressure at and below 19,700 ft.. altitude, 2,400 r.p.m.,
31.0 in. hg manifold pressure at 24,000 ft. altitude.
Straight line variation between points given.

Propeller and Propeller Limits

Hartzell Hub and Blade Models:

HC-E3YR-2AF/FC8468-6R (Eligible on TIO-540-F2BD engines)
HC-E3YR-2ATF/FC8468-6R
HC-E3YR-2ATF/FC8468-7R

HC-E3YR-2ALTF/FJC8468-6R (Eligible on LTIO-540-F2BD engines)
HC-E3YR-2ALF/FJC8468-6R
HC-E3YR-2ALTF/FJC8468-7R

Pitch: High 82° ± 1.0° (feathered), Low 13.2° ± 0.1° at 30 in station.
Diameter: Not over 80 in., not under 78 in.
No further reduction permitted.

Propeller Governor

2 Hartzell F-6-24Z Propeller Governors

Airspeed Limits (CAS)

Applicable to all S/N:

V_{NE}	(Never Exceed)	272 mph	(236 knots)
V_{NO}	(Max. Structural Cruise)	216 mph	(188 knots)
	Above 21,000 ft. reduce V_{NO} speed 3 mph per 1,000 ft.		
V_A	(Maneuvering)	183 mph	(159 knots)
V_{FE}	(Flaps Extended) 40°	150 mph	(130 knots)
V_{MC}	(Minimum Control)	85 mph	(74 knots)

Applicable to S/N 31-7400990, 31-7512001 through 31-7712106:

V_{FE}	(Flaps Extended) 15°	175 mph	(152 knots)
V_{LO}	(Landing Gear Operating) Extension and Retraction	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	150 mph	(130 knots)

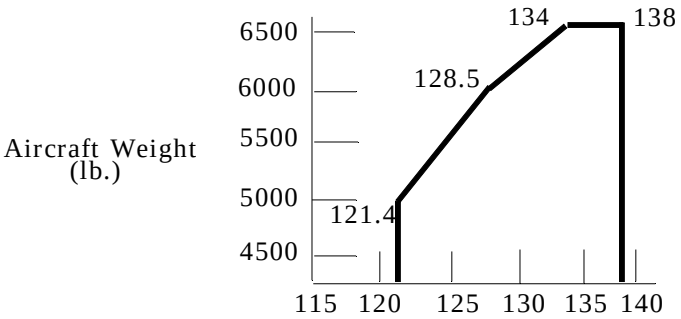
Airspeed Limits (CAS)

Applicable to S/N 31-7812001 through 31-8312019:

V_{FE}	(Flaps Extended) 25°	184 mph	(160 knots)
V_{LO}	(Landing Gear Operating)		
	Extension	180 mph	(156 knots)
	Retraction	150 mph	(130 knots)
V_{LE}	(Landing Gear Extended)	180 mph	(156 knots)

C.G. Range (Gear Extended)

(+134.0) to (+138.0) at 6,500 lb.
(+128.5) to (+138.0) at 6,000 lb.
(+121.4) to (+138.0) at 5,000 lb. or less
Straight line variation between points given.
Moment due to retracting landing gear: + 860 in.-lb.



C. G. Location
(Inches aft of datum)

Empty Weight C.G. Range

None

Maximum Weight

6,500 lb. - Takeoff or Landing

No. of Seats

6 - 8 seats (2 at +119.0, 2 at +166.0, 2 at +198.0)
(2 optional, 1 at +229.0, 1 at +234.0)

Maximum Baggage

Total: 650 lb.
Fuselage: 150 lb. at +43.0
200 lb. at +255
Nacelle Lockers: 150 lb. each side at +168.0
With optional nacelle fuel tanks.

Total: 450 lb.
Fuselage: 150 lb. at +43.0
200 lb. at +255.0
Nacelle Lockers: 50 lb. each side at +192.0

Fuel Capacity

Total - 192 gallons
56 gallons in each of 2 wing tanks at +126.8
40 gallons in each of 2 wing tanks at +148.0
With optional nacelle fuel tanks.

Total - 246 gallons
56 gallons in each of 2 wing tanks at +126.8
27 gallons in each of 2 nacelle tanks at +142.8
40 gallons in each of 2 wing tanks at +148.0

See NOTE 1 for unusable fuel data.

Oil Capacity

Total - 6 gallons at (+77)
(3 gallons each engine - 2 3/4 qt. unusable each engine)

Control Surface Movements	Aileron	(±1.0°)	Up	24°	Down	14°
	Aileron Tab	(±1.0°)	Up	15°	Down	20°
(All measurements taken at trailing edge from neutral position)	(Aileron neutral)					
	Applicable to S/N 31-7400990, 31-7512001 through 31-7912124:					
	Elevator	(±1.0°)	Up	20°	Down	20°
	Elevator Tab	(±1.0°)	Up	1°	Down	40°
	(Elevator neutral)					
	Applicable to S/N 31-8012001 through 31-8312019:					
	Elevator	(±1.0°)	Up	20°	Down	20°
	Elevator Tab	(±1.0°)	Up	5°	Down	40°
	(Elevator neutral)					
	Rudder	(±1.0°)	Right	30°	Left	30°
	Rudder Tab	(±1.0°)	Right	18°	Left	40°
	(Rudder neutral)					
	Flaps	(±1.0°)			Down	40°

Maximum Operating Altitude — 24,000 ft. pressure altitude.

Serial Numbers Eligible — 31-7400990, and 31-7512001 through 31-8312019 (See NOTES 5 and 6 for airworthiness certification eligibility in the United States).

DATA PERTINENT TO ALL MODELS

Datum — 137 inches forward of the main spar centerline.

Leveling Means — Top of two rivnuts on right side of nose, near access door.

Certification Basis — Type Certificate No. A20SO issued March 6, 1978, (originally issued February 24, 1966, under Type Certificate A8EA) obtained by the manufacturer under the delegation option authorization.
Date of Type Certificate application March 15, 1962.

CAR 3 effective May 15, 1956, through Amendment 3-8, effective December 18, 1962; and FAR 23.205, 23.1545, 23.1563 and 23.1585 as amended by Amendment 23-3, effective November 11, 1965; and FAR 23.1557(c)as amended by Amendment 23-7, effective September 14, 1969.
Eastern Region Engineering and Manufacturing Branch letter of December 6, 1965, addresses the showing of equivalent safety with regard to CAR 3.682, 3.771, and 3.772.

In addition:
Model PA-31-350: FAR 23.75(a), 23.77, 23.145, 23.161, 23.175(d), and 23.1527 as amended by Amendment 23-7, effective September 14, 1969.

Model PA-31-325: FAR 23.75(a), 23.77(a), 23.145, 23.161, 23.175(a), 23.175(b), 23.175(c), 23.175(d), and 23.1527 as amended by Amendment 23-7, effective September 14, 1969.

Model PA-31 and PA-31-325 (S/N 31-8012001 through 31-8312019), and Model PA-31-350 (S/N 31-8052001 through 31-8553002): FAR 36 as amended by Amendments 1 through 6, effective January 24, 1977. Compliance with ice protection requirements have been demonstrated in accordance with FAR 23.1419 as amended by Amendment 23-14, effective December 20, 1973, when ice protection equipment is installed in accordance with the airplane equipment list.

Certification Basis (continued)

Model PA-31-350 (S/N 31-7652124 through 31-7952250):
Compliance with ice protection requirements have been demonstrated in accordance with FAR 23.1419 as amended by Amendment 23-14, effective December 20, 1973, when ice protection equipment is installed in accordance with Piper Drawing 71983.

Production Basis

Approved for manufacture of spare parts only under Production Certificate Number 206.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

1. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1362 for Model PA-31, S/N 31-2 through 31-659, 31-661 through 31-711.
2. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1470 for Model PA-31-300, S/N 31-2 through 31-511.
3. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1655 for Model PA-31, S/N 31-712 through 31-751.
4. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1653 for Model PA-31 with nacelle wing lockers and TIO-540-A2B engines, Serial Number 31-660.
5. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1686 for Model PA-31 with nacelle wing lockers and TIO-540-A2C engines, Serial Number 31-712 through 31-751.
6. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1702 for Model PA-31, S/N 31-752 through 31-900 and 31-7300901 through 31-7612110.
7. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1750 for Model PA-31-350, S/N 31-5001 through 31-5004 and 31-7305005 through 31-7652176.
8. D.O.A. No. EA-1 Approved Airplane Flight Manual per PAC Report No. 1860 for Model PA-31-325, S/N 31-7300932 through 31-7612110.
9. D.O.A. No. EA-1 Approved Pilot's Operating Handbook per PAC Report No. 2045 for Model PA-31, S/N 31-7712001 through 31-7812073.
10. D.O.A. No. EA-1 Approved Pilot's Operating Handbook per PAC Report No. 1964 for Model PA-31-325, S/N 31-7712001 through 31-7812072.
11. D.O.A. No. EA-1 Approved Pilot's Operating Handbook per PAC Report No. 2046 for Model PA-31-350, S/N 31-7752001 through 31-7852079.
12. D.O.A. No. SO-1 Approved Pilot's Operating Handbook per PAC Report No. 2045 for Model PA-31, S/N 31-7812074 through 31-7912124.
13. D.O.A. No. SO-1 Approved Pilot's Operating Handbook per PAC Report No. 1964 for Model PA-31-325, S/N 31-7812073 through 31-7912124.
14. D.O.A. No. SO-1 Approved Pilot's Operating Handbook per PAC Report No. 2046 for Model PA-31-350, S/N 31-7852080 through 31-7952250.
15. D.O.A. No. SO-1 Approved Pilot's Operating Handbook and FAA Approved Airplane Flight Manual Report No. LK-1206 for Model PA-31, S/N 31-8012001 through 31-8312019.
16. D.O.A. No. SO-1 Approved Pilot's Operating Handbook and FAA Approved Airplane Flight Manual Report No. LK-1207 for Model PA-31-325, Serial Number 31-8012001 through 31-8312019.
17. D.O.A. No. SO-1 Approved Pilot's Operating Handbook and FAA Approved Airplane Flight Manual Report No. LK-1208 for Model PA-31-350, Serial Number 31-8052001 through 31-8553002.
18. D.O.A. No. SO-1 Approved Pilot's Operating Handbook and FAA Approved Airplane Flight Manual Report No. LK-1345 for PA-31-350, Serial Number 31-8253001 through 31-8553002.

NOTE 1 Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification. All of the fuel and oil can be drained. However, the certified empty weight and corresponding center of gravity location must include unusable fuel as follows: 24 lb. at (+129.0) for the Models PA-31 and PA-31-300 and 12 lb. at (+140.0) for S/N 31-2 and up, except S/N 31-660, 31-7300924, 31-7300926, 31-7300928 and 31-7300930; 16 lb. at (+129.0) and 12 lb. at (+140.0) for Model PA-31, S/N 31-7300932 through 31-8312019; 27 lb. at (+129.0) and 24 lb. at (+148.0) for Model PA-31-325; 36 lb. at (+129.0) for Model PA-31-350, S/N 31-8253001 through 31-8553002, equipped with a fuel system capacity of 112 gal; 36 lb. at (+129.0) and 24 lb. at (+148.0) for Model PA-31-350 equipped with fuel system capacities of 192 gallons and 246 gallons.

NOTE 2 All placards required in the approved Airplane Flight Manual must be installed in the appropriate locations.

In addition, the following placard must be displayed on the instrument panel in full view of the pilot: "THIS AIRCRAFT MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS. NO ACROBATIC MANEUVERS (INCLUDING SPINS) APPROVED."

NOTE 3 Model PA-31 Type Certificate A20SO approved February 24, 1966, for a maximum gross weight of 6,200 lb. takeoff or landing. For Model PA-31 aircraft, S/Ns 31-2 through 31-900 and 31-7300901 through 31-8312019, Type Certificate A20SO reissued July 25, 1966, for maximum gross weight of 6,500 lb. takeoff and 6,200 lb. landing.

NOTE 4 Model PA-31 with nacelle wing lockers is only approved with TIO-540-A2B or TIO-540-A2C engines and with three-blade propellers listed under Propeller and Propeller Limits section.

NOTE 5 Any aircraft with a letter prefix on the serial number is not eligible for airworthiness certification in the United States. Example: AR31-XXXXXXXX.

NOTE 6 The following serial numbers are not eligible for airworthiness certification in the United States:

PA-31, PA-31-300, and PA-31-325:

31-7400991, 31-7512002, 31-7512026, 31-7812011, 31-7812053, 31-7812070, 31-7812080, 31-7812101, 31-7812116, 31-7812122, 31-8012045, 31-8012056, 31-8012067, 31-8012071, 31-8012083, 31-8012089, 31-8012101, 31-8012102, 31-8112037, 31-8112044, 31-8112052, 31-8112061, 31-8112072, 31-8112073, 31-8112077, 31-8212023, 31-8212024, 31-8212028, 31-8212029, 31-8212034, 31-8212036, 31-8312002, and 31-8312007.

PA-31-350:

31-7405218, 31-7405238, 31-7405485, 31-7405490, 31-7552043, 31-7552073, 31-7552076, 31-7652099, 31-7652144, 31-7852014, 31-7852042, 31-7852081, 31-7852110, 31-7852123, 31-7852133, 31-7852169, 31-7952067, 31-7952140, 31-7952184, 31-7952231, 31-8052009, 31-8052083, 31-8052145, 31-8052217, 31-8052218, 31-8052219, 31-8152067, 31-8152068, 31-8152122, 31-8152123, 31-8152144, 31-8152145, 31-8152201, 31-8152202, 31-8152203, 31-8252024, 31-8252037, 31-8252046, 31-8252058, 31-8252070, 31-8252071, 31-8252084, 31-8252085, 31-8352002, 31-8352003, and 31-8352036.

NOTE 7 This Type Certificate Data Sheet reflects the certification basis and approval for all PA-31, PA-31-300, PA-31-325, and PA-31-350 aircraft. The following aircraft were produced under Type Certificate A8EA:

PA-31	S/N 31-2 through 31-900 and 31-7300901 through 31-7812073
PA-31-300	S/N 31-2 through 31-511
PA-31-325	S/N 31-7300932 through 31-7812072
PA-31-350	S/N 31-5001 through 31-5004 and 31-7305005 through 31-7852079

This note reflects a split in the original Type Certificate for administrative purposes. The information on this Type Certificate Data Sheet applies to all Piper Models PA-31, PA-31-300, PA-31-325, and PA-31-350, including:

(a) Those serial numbered aircraft listed above, manufactured under FAA Type Certificate A8EA, at Lock Haven, Pennsylvania, and

(b) Those aircraft subsequent to the above serial numbers, manufactured under this Type Certificate at Lakeland, Florida.

...END...